CLAIMS:

1. A method for changing the temperature of a sample from an initial temperature via an intermediate temperature to a final temperature, one of the initial and final temperatures being above the freezing point of said sample and the other being below the freezing point, the minimal dimension of the sample in each of two mutually perpendicular cross-sections exceeding 0.5 centimeters, and at least one of the cross-sections having an outer zone and an inner zone, the method comprising:

(i) changing the temperature of the sample until the temperature of the sample in at least one part of the outer zone equals the intermediate temperature whilst the temperature of the sample in the inner zone or in another part of the outer zone, spaced from said one part, is different from said intermediate temperature;

(ii) further changing the temperature of said sample by subjecting it to the intermediate temperature until the temperature of said sample in at least one cross-section is uniform and equals the intermediate temperature; and

(iii) changing the temperature of said sample until the majority of said sample is at the final temperature.

2. The method of Claim 1, wherein said sample is subjected in step)ii(to said intermediate temperature until the temperature of the sample equals said intermediate temperature.

3. The method according to Claim 5, wherein the changing of the temperature in step (i) is achieved by moving the sample through a region with a temperature gradient from the initial temperature to the intermediate temperature, and the changing of the temperature in step (iii) is achieved by moving the sample through a region with a temperature gradient from the intermediate temperature to the final temperature.

4. The method of Claim 3, wherein said changing of the ambient temperature is at least partially gradual and is achieved at least partially by the gradual movement of said sample in the direction of a temperature gradient